

REMARKS

In response to the Office Action dated July 5, 2002, claims 1, 8, 15, 18 and 19 have been amended. New claims 25-28 have been added. Therefore, claims 1-28 are now in the case. Reexamination and reconsideration of the application are requested.

Section 112, Second Paragraph Rejections

The Office Action rejected claims 15 and 18 under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter that the Applicant regards as his invention.

In response to the rejection of claim 15, the Applicants respectfully traverse this rejection. However, in an effort to further and expedite the prosecution of this application the Applicants have amended claim 15 to more particularly point out and distinctly claim the invention. In particular, amended claim 15 now makes even clearer that multiple camera views are obtained from the omni-directional image.

Regarding the rejection of claim 18, the Office Action stated that the term "may" renders claim 18 vague and indefinite. In particular, the Office Action maintained that the term "may" does not positively identify the limitation such that it is unclear where the view is able to select to view multiple portion of the omni-directional image or not.

In response, the Applicants note that claim 18 does not contain the term "may". However, claim 19 does contain the term "may" and does discuss the limitation wherein the viewer may select to view multiple portions of the omni-directional image. Thus, the Applicants assume an error was made in the rejection and that the intended claim to be rejected under 35 U.S.C. § 112, second paragraph was claim 19.

In response to the rejection of claim 19, the Applicants respectfully traverse this rejection. However, in an effort to further and expedite the prosecution of this application the Applicants have amended claim 19 to more particularly point out and distinctly claim the invention. In particular, amended claim 19 now makes even clearer that the viewer

selects to view multiple portions of the omni-directional image.

It should be noted that the amendments to claims 15 and 19 were made in response to the rejection under 35 U.S.C. § 112, second paragraph contained in the Office Action and not because of any prior art.

Section 102(b) Rejections

The Office Action rejected claims 1, 3, 5 and 7 under 35 U.S.C. § 102(b) as being anticipated by Ippolito et al. (U.S. Patent No. 6,072,522). The Office Action stated that Ippolito et al. disclose all the elements of the Applicants' claimed invention.

In response, the Applicants have amended claim 1 to more clearly distinguish the Applicants' invention from the prior art. The Applicants, therefore, respectfully traverse this rejection based on the amendments to the claim and the following arguments.

Amended claim 1 of the Applicants' claimed invention includes an automated event presentation system for capturing and viewing an event having event participants. The system includes an omni-directional camera system that provides an omni-directional image of the event and simultaneously monitors the event participants and films the event. The system also includes an automated online broadcasting system that controls the omni-directional camera system, and uses the omni-directional camera system to keep track of each of the monitored event participants. This monitoring and tracking is performed for each event participant simultaneously. The automated online broadcasting system also broadcasts the event. A viewer platform is included in the system that is in communication with the automated online broadcasting system and allows a viewer to view the broadcasted event.

Because the omni-directional camera system provides an omni-directional image of the event, each of the event participants can be monitored and tracked within the image. This tracking and monitoring is performed for each event participant simultaneously.

Because an omni-directional image of the event is provided, any number of participants to be tracked and monitored simultaneously. In addition, the omni-directional image allows instantaneous switching between viewpoints of the broadcasted event without camera movement.

In contrast, Ippolito et al. do not disclose the Applicants' claimed elements of an omni-directional camera system that provides an omni-directional image of the event and automated online broadcasting system that and uses the omni-directional camera to keep track of each of the monitored event participants simultaneously. Ippolito et al. merely describes a video conferencing apparatus that shows a single event participant at a time. The system of Ippolito et al. detects which of the participants is speaking and designates that participants the current principle speaker (col. 7, lines 41-46). The other participants, however, are not tracked or even considered unless they are designated the current principal speaker.

Specifically, in Ippolito et al. a radial microphone array is used to find the current principle speaker (col. 7, lines 41-46). Once the speaker is identified, a video camera is positioned in an azimuthal direction so that the camera can capture the speaker (col. 7, lines 46-52). The system of Ippolito et al. can be a single camera or a plurality of cameras. If the system of Ippolito et al. uses a single camera, the camera is mounted on a platform that has 360 degrees of azimuthal span and is able rotate to the azimuthal location where the speaker is located (col. 7, lines 63-67). If the system of Ippolito et al. uses a plurality of cameras in an array, the system activates the camera in the array that is nearest the speaker (col. 13, lines 46-52). Once the appropriate camera is activated, the speaker may be centered in the field-of-view of the camera by "subsequently mechanically adjusting the azimuthal orientation of the activated video camera" (col. 13, lines 59-67). In contrast to the Applicants' claimed automated online broadcasting system that keeps track of each of the event participants simultaneously, the system of Ippolito et al. only captures the current principle speaker and ignores the location of the other local participants.

Unlike the Applicants' claimed invention, the system of Ippolito et al. is incapable of

monitoring and tracking each of the event participants simultaneously because an omni-directional image is not provided. Specifically, in the system of Ippolito et al., only the camera nearest the current principle speaker is active while the other cameras are inactive. This means that the system of Ippolito et al. cannot track and monitor every participant in the event at the same time. In addition, the situation may arise where there is a plurality of viewers each wanting to see a different event participant. When the number of participants exceeds the number of cameras, the system of Ippolito et al. does not work because it does not provide an omni-directional image. On the other hand, the omni-directional image provided in the Applicants' claimed invention allows monitoring and tracking of each event participant.

Thus, claim 1 of the Applicants' claimed invention includes at least one element that is neither taught nor disclosed by Ippolito et al.. Accordingly, the Applicants respectfully submit that the rejection of independent claim 1 under 35 U.S.C. § 102(b) as being anticipated by Ippolito et al. has been overcome based on the amendments and the arguments set forth above. Moreover, rejected claims 3, 5 and 7 depend from independent claim 1 and are therefore also novel over Ippolito et al. (MPEP § 2143.03). The Applicants, therefore, respectfully request reexamination, reconsideration and withdrawal of the rejection of claims 1, 3, 5, and 7 under 35 U.S.C. § 102(b) as being anticipated by Ippolito et al. based on the foregoing amendments and arguments.

Section 103(a) Rejections

The Office Action rejected claims 2, 4, 8, 9 and 14-23 under 35 U.S.C. § 103(a) as being unpatentable over Ippolito et al. in view of Martin et al. (U.S. Patent No. 5,877,801). The Office Action contended that Ippolito et al. disclose all elements of the Applicants' claimed invention except for a few certain features. However, the Office Action stated that Martin et al. disclose these missing features.

In response, the Applicants respectfully traverse these rejections based on the amendments to claims 1, 8 and 18 and the arguments above and below. In particular, it is the Applicants' position that neither Ippolito et al. nor Martin et al. disclose, suggest or

provide any motivation for at least one claimed feature of the Applicants' claimed invention. Further, both Ippolito et al. and Martin et al. fail to appreciate the advantages of this claimed feature.

To make a prima facie showing of obviousness, all of the claimed features of an Applicant's invention must be considered, especially when they are missing from the prior art. If a claimed feature is not taught in the prior art and has advantages not appreciated by the prior art, then no prima facie showing of obviousness has been made. The Federal Circuit Court has held that it was an error not to distinguish claims over a combination of prior art references where a material limitation in the claimed system and its purpose was not taught therein. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Moreover, if the prior art references do not disclose, suggest or provide any motivation for at least one claimed feature of an Applicant's invention then a prima facie case of obviousness has not been established (MPEP § 2142).

As discussed above, amended claim 1 of the Applicants' claimed invention includes an automated event presentation system for capturing and viewing an event having event participants. The system includes an omni-directional camera system that provides an omni-directional image of the event and simultaneously monitors the event participants and films the event. The system also includes an automated online broadcasting system that uses the omni-directional camera system to keep track of each of the event participants simultaneously as they are being monitored by the omni-directional camera system. Conversely, Ippolito et al. merely describe a video conferencing apparatus that locates and centers the camera on the current principle speaker and ignores the other event participants.

In addition, Ippolito et al. fail to provide any motivation, suggestion or desirability to modify their video conferencing system to monitor and keep track of each of the event participants simultaneously. One reason for this is that the speaker detection technique used in Ippolito et al. is used to detect a current principle speaker (CPS) from the local participants. Once a CPS goes inactive (or stops talking), the technique in

Ippolito et al. immediately begins looking for a new principle speaker (NPS) (col. 15, lines 1-31). In other words, Ippolito et al. is only interested in focusing the camera on the CPS and ignoring the other participants. Thus, Ippolito et al. provides no motivation or suggestion to monitor and keep track of each of the event participants simultaneously. Absent this motivation or suggestion, therefore, Ippolito et al. cannot render the Applicants' claimed invention obvious (MPEP § 2143.01).

Martin et al. add nothing to the cited combination that would render the Applicants' claimed invention obvious. In particular, Martin et al. merely disclose a system that corrects for distortion in a fish-eye lens at a remote location (Abstract). The system is concerned with achieving this perspective-corrected view at the remote location without transmitting control signal to the image creation site. Martin et al. use a fish-eye lens that does not provide an omni-directional image of the event and does not allow automatic tracking and monitoring of each event participant simultaneously. In fact, the Applicants' claimed feature of an automated online broadcasting system that keeps track of each of the event participants simultaneously is not discussed. Consequently, no motivation or suggestion for this feature of the Applicants' claimed invention is provided. Absent this motivation or suggestion, Martin et al. cannot render the Applicants' claimed invention obvious (MPEP § 2143.01).

Ippolito et al. and Martin et al. both fail to appreciate or recognize the advantages of the Applicants' claimed feature of an automated online broadcasting system that keeps track of each of the event participants simultaneously. More specifically, the automated online broadcasting system contains a tracker module that "determines the number of meeting participants and keeps track of them" (specification, paragraph 0045, line 7). This tracking of each event participant simultaneously allows the camera view to be switched with delay (specification, paragraph 0054, lines 1-2). This alleviates any latency between the switching of views and gives the viewer a better viewing experience (paragraph 0054, lines 5-6).

On the other hand, because they do not provide an omni-directional image, neither Ippolito et al. nor Martin et al. are capable of instantaneous view switching. As discussed above, Martin et al. use a fish-eye lens that does not provide an omni-directional image. In addition, Ippolito et al. switches views mechanically. Mechanical switching is slow. The noise and motion of moving cameras are distracting and can disrupt the dynamics of a meeting or event. Moreover, mechanical moving parts can wear out and tend to be less reliable. Conversely, the Applicants' claimed invention provides an omni-directional image to monitor and track each event participant for instantaneous view switching using software that has no moving parts. Neither Ippolito et al. nor Martin et al. discuss or appreciate these advantages of the Applicants' claimed feature of an automated online broadcasting system that keeps track of each of the event participants simultaneously.

The Applicants, therefore, submit that obviousness cannot be established since neither Ippolito et al. nor Martin et al. disclose, suggest or provide any motivation for the Applicants' claimed automated online broadcasting system that keeps track of each of the event participants simultaneously. In addition, both Ippolito et al. and Martin et al. fail to appreciate the advantages of this claimed feature. Therefore, as set forth in *In re Fine* and MPEP § 2142, Ippolito et al. and Martin et al., either alone or in combination, do not render the Applicants' claimed invention obvious because they are missing at least one material feature of the Applicants' claimed invention. Consequently, because a prima facie case of obviousness cannot be established due to the lack of "some teaching, suggestion, or incentive supporting the combination", the rejection must be withdrawn. ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984); MPEP 2143.01.

Accordingly, the Applicants respectfully submit that claim 1 is patentable under 35 U.S.C. § 103(a) over Ippolito et al. in view of Martin et al. based the amendments to claim 1 and the arguments set forth above and below. Moreover, claims 2 and 4 depend from independent claim 1 are also nonobvious over Ippolito et al. in view of Martin et al. (MPEP § 2143.03). The Applicants, therefore, respectfully requests the reexamination,

reconsideration and withdrawal of the rejection of claims 2 and 4.

Amended claim 8 of the Applicants' claimed invention includes a method for filming and recording an event having event participants and presenting the event to a viewer. The method includes filming and recording the event using an omni-directional camera system to provide an omni-directional image that contains each of the event participants and determining a location of the event participants in the omni-directional image. The method also includes providing a user interface that allows a choice of which of the event participants in the omni-directional image to view. This choice can be made by a viewer and by a virtual directory. The method also includes switching instantaneously between views of the event participants in the omni-directional image in response to the choice.

In contrast, Ippolito et al. do not disclose the Applicants' claimed feature of switching instantaneously between views of the event participants in the omni-directional image in response to the viewer's choice. As noted above, Ippolito et al. merely describes a video conferencing apparatus that locates the current principle speaker (col. 7, lines 41-46). Other local participants, however, are not tracked or even considered unless they are designated the current principal speaker. In addition, once the current principle speaker is identified, the video camera is must be moved in an azimuthal direction so that the camera can capture the speaker (col. 7, lines 46-52). This locating and physical movement of the camera takes time. On the other hand, the Applicants' claimed invention includes an omni-directional image where each event participant is tracked and monitored at all times. When switching between views of event participants occurs, the Applicants' claimed invention can perform this instantaneously without mechanical movement. The system of Ippolito et al. simply cannot achieve this instantaneous switching between views of the event participants.

In addition, Ippolito et al. fail to provide any motivation, suggestion or desirability to modify their video conferencing system to switch instantaneously between views of the event participants in an omni-directional image in response to the viewer's choice. One reason for this is that the system of Ippolito et al. must find a current principle speaker (CPS) from the local participants and then move a camera in the azimuthal

direction to focus on the CPS. The system of Ippolito et al. is only interested in focusing the camera on the CPS and ignoring the other participants. In addition, when a new CPS is found the camera must be moved to a location where it can be trained on the new CPS. This takes time, and prevents the system of Ippolito et al. from achieving instantaneous switching. Thus, Ippolito et al. provides no motivation or suggestion to speed up the process to allow instantaneously switching between views of the event participants. Absent this motivation or suggestion, therefore, Ippolito et al. cannot render the Applicants' claimed invention obvious (MPEP § 2143.01).

Martin et al. add nothing to the cited combination that would render the Applicants' claimed invention obvious. As discussed above, Martin et al. merely disclose a system using a fish-eye lens (that does not provide an omni-directional image) that is concerned with achieving a perspective-corrected view at a remote location without transmitting control signal to the image creation site. However, the Applicants' claimed feature of switching instantaneously between views of the event participants in an omni-directional image in response to the viewer's choice is not discussed. Consequently, no motivation or suggestion for this feature of the Applicants' claimed invention is provided. Absent this motivation or suggestion, Martin et al. cannot render the Applicants' claimed invention obvious (MPEP § 2143.01).

Ippolito et al. and Martin et al. both fail to appreciate or recognize the advantages of the Applicants' claimed feature of switching instantaneously between views of the event participants in an omni-directional image in response to the viewer's choice. Instantaneous switching alleviates any latency between the switching of views and gives the viewer a better viewing experience (paragraph 0054, lines 5-6). Neither Ippolito et al. nor Martin et al. discuss or appreciate these advantages of the Applicants' claimed feature of switching instantaneously between views of the event participants.

The Applicants, therefore, submit that obviousness cannot be established since neither Ippolito et al. nor Martin et al. disclose, suggest or provide any motivation for the Applicants' claimed feature of switching instantaneously between views of the omni-

directional image by presenting the desired portion of the omni-directional image as selected by the viewer. In addition, both Ippolito et al. and Martin et al. fail to appreciate the advantages of this claimed feature. Therefore, as set forth in *In re Fine* and MPEP § 2142, Ippolito et al. and Martin et al., either alone or in combination, do not render the Applicants' claimed invention obvious because they are missing at least one material feature of the Applicants' claimed invention. Consequently, because a prima facie case of obviousness cannot be established due to the lack of "some teaching, suggestion, or incentive supporting the combination", the rejection must be withdrawn. ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984); MPEP 2143.01.

Accordingly, the Applicants respectfully submit that claim 8 is patentable under 35 U.S.C. § 103(a) over Ippolito et al. in view of Martin et al. based the amendments to claim 8 and the arguments set forth above and below. Moreover, claims 9 and 14-17 depend from independent claim 8 are also nonobvious over Ippolito et al. in view of Martin et al. (MPEP § 2143.03). The Applicants, therefore, respectfully requests the reexamination, reconsideration and withdrawal of the rejection of claims 8, 9 and 14-17.

Amended claim 18 of the Applicants' claimed invention includes a method for displaying at least a portion of an omni-directional image capturing an event occurring within an event environment. The method in includes filming the event using an omni-directional camera system having a single camera to produce the omni-directional image, transmitting the omni-directional image from a broadcasting platform to a viewer platform using a computer network, and using the viewer platform to allow a viewer to select which portion of the omni-directional image the viewer would like to view. In addition, the method in includes switching instantaneously between views of the omni-directional image by presenting the desired portion of the omni-directional image as selected by the viewer.

Conversely, as discussed above in regard to independent claim 8, Ippolito et al. do not disclose the Applicants' claimed feature of switching instantaneously between views of the omni-directional image. In addition, fail to provide any motivation.

suggestion or desirability to modify their video conferencing system to switch instantaneously between views of the omni-directional image. Martin et al. add nothing to the cited combination that would render the Applicants' claimed invention obvious. In addition, Ippolito et al. and Martin et al. both fail to appreciate or recognize the advantages of the Applicants' claimed feature of switching instantaneously between views of the omni-directional image.

Similar to the reasoning for claim 8 as set forth above, the Applicants submit that obviousness cannot be established since neither Ippolito et al. nor Martin et al. disclose, suggest or provide any motivation for the Applicants' claimed feature of switching instantaneously between views of the omni-directional image by presenting a desired portion of the omni-directional image as selected by the viewer. Therefore, as set forth in *In re Fine* and MPEP § 2142, Ippolito et al. and Martin et al., either alone or in combination, do not render the Applicants' claimed invention obvious because they are missing at least one material feature of the Applicants' claimed invention. Consequently, because a prima facie case of obviousness cannot be established due to the lack of "some teaching, suggestion, or incentive supporting the combination", the rejection must be withdrawn. ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984); MPEP 2143.01.

Accordingly, the Applicants respectfully submit that claim 18 is patentable under 35 U.S.C. § 103(a) over Ippolito et al. in view of Martin et al. based the amendments to claim 18 and the arguments set forth above and below. Moreover, claims 19 and 20 depend from independent claim 18 and are also nonobvious over Ippolito et al. in view of Martin et al. (MPEP § 2143.03). The Applicants, therefore, respectfully requests the reexamination, reconsideration and withdrawal of the rejection of claims 18-20.

Claim 21 of the Applicants' claimed invention includes an automated event presentation system for capturing an event. The system includes a high-resolution omni-directional camera system that provides an omni-directional image of the event, the omni-directional image containing multiple camera views, and an automated online broadcasting

system that is capable of broadcasting the omni-directional image over a computer network. In addition, the system includes a viewer platform in communication with the computer network that receives the omni-directional image. The system also includes a virtual director module within the automated online broadcasting system that determines which of the multiple camera views within the omni-directional image to display on the viewer platform. The virtual director module determines this by applying a set of expert production rules.

Expert video production rules are rules that the virtual director module uses to make decisions. For example, one such expert video production rule determines which camera view is an output camera view. Other examples of expert video production rules are found in the Applicants' specification (paragraph 0051 and paragraph 0052). In contrast, Ippolito et al. do not disclose a virtual director module that applies expert video production rules. The only rule used in Ippolito et al. is for choosing a camera based on which event participant is currently speaking. However, unlike the Applicants' claimed invention, this rule is not an expert video production rule based on expert rules.

In addition, Ippolito et al. fail to provide any motivation, suggestion or desirability to modify their video conferencing system to include a virtual director module that applies expert video production rules. Thus, Ippolito et al. provides no motivation or suggestion to use a virtual director module that applies expert video production rules. Absent this motivation or suggestion, therefore, Ippolito et al. cannot render the Applicants' claimed invention obvious (MPEP § 2143.01).

Martin et al. add nothing to the cited combination that would render the Applicants' claimed invention obvious. In particular, Martin et al. merely disclose a system that corrects for distortion in a fish-eye lens at a remote location (Abstract). The system is concerned with achieving this perspective-corrected view at the remote location without transmitting control signal to the image creation site. However, the Applicants' claimed element of a virtual director module that applies expert video production rules is not discussed. In fact, Martin et al. nowhere discuss using expert video production rules to

choose a portion of the fish-eye lens output to view. Consequently, no motivation or suggestion for this feature of the Applicants' claimed invention is provided. Absent this motivation or suggestion, Martin et al. cannot render the Applicants' claimed invention obvious (MPEP § 2143.01).

Ippolito et al. and Martin et al. both fail to appreciate or recognize the advantages of the Applicants' claimed feature of a virtual director module that applies a set of expert video production rules. More specifically, the virtual director module applies the set of expert video production rules in a probabilistic finite state machine framework such that the "director does not seem so mechanical to the human viewers" (specification, paragraph 0053). This allows a much more pleasant viewing experience for the viewer. Neither Ippolito et al. nor Martin et al. discuss or appreciate these advantages of the Applicants' claimed element of a virtual director module that applies a set of expert video production rules.

The Applicants, therefore, submit that obviousness cannot be established since neither Ippolito et al. nor Martin et al. disclose, suggest or provide any motivation for the Applicants' claimed virtual director module that applies a set of expert video production rules. In addition, both Ippolito et al. and Martin et al. fail to appreciate the advantages of this claimed element. Therefore, as set forth in *In re Fine* and MPEP § 2142, Ippolito et al. and Martin et al., either alone or in combination, do not render the Applicants' claimed invention obvious because they are missing at least one material feature of the Applicants' claimed invention. Consequently, because a prima facie case of obviousness cannot be established due to the lack of "some teaching, suggestion, or incentive supporting the combination", the rejection must be withdrawn. ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984); MPEP 2143.01.

Accordingly, the Applicants respectfully submit that claim 21 is patentable under 35 U.S.C. § 103(a) over Ippolito et al. in view of Martin et al. based the arguments set forth above and below. Moreover, claims 22-24 depend from independent claim 21 and are

also nonobvious over Ippolito et al. in view of Martin et al. (MPEP § 2143.03). The Applicants, therefore, respectfully requests the reexamination, reconsideration and withdrawal of the rejection of claims 21-24.

The Applicants respectfully submit that the rejection of independent claims 1, 8, 18 and 21 under 35 U.S.C. § 103(a) as being unpatentable over Ippolito et al. in view of Martin et al. has been overcome. Moreover, rejected claims 2 and 4 depend from independent claim 1, rejected claims 9 and 4-17 depend from independent claim 8, rejected claims 19 and 20 depend from independent claim 18, and rejected claims 22-24 depend from independent claim 21 and are therefore also nonobvious over Ippolito et al. in view of Martin et al. (MPEP § 2143.03). The Applicants, therefore, respectfully request reexamination, reconsideration and withdrawal of the rejection of claims 2, 4, 8, 9 and 14-23 under 35 U.S.C. § 103(a) as being unpatentable over Ippolito et al. in view of Martin et al. based on the foregoing amendments and arguments.

The Office Action rejected claim 6 under 35 U.S.C. § 103(a) as being unpatentable over Ippolito et al. in view of St. Hilaire et al. (U.S. Patent No. 5,790,182). The Office Action contended that Ippolito et al. disclose all elements of the Applicants' claimed invention except for an omni-directional camera system having a high resolution of 1000x1000 pixels. However, the Office Action stated that St. Hilaire et al. disclose this missing feature.

In response, the Applicants respectfully traverse this rejection based on the amendments to claims 1 and the arguments above and below. In particular, it is the Applicants' position that neither Ippolito et al. nor St. Hilaire et al. disclose, suggest or provide any motivation for at least one claimed feature of the Applicants' claimed invention. Further, both Ippolito et al. and St. Hilaire et al. fail to appreciate the advantages of this claimed feature.

As discussed above, amended claim 1 of the Applicants' claimed invention includes an omni-directional camera that provides an omni-directional image of the

event and an automated online broadcasting system that uses the omni-directional camera system to keep track of each of the event participants simultaneously. Conversely, Ippolito et al. merely describe a video conferencing apparatus that locates and centers the camera on the current principle speaker and ignores the other event participants. Ippolito et al. also fail to provide any motivation, suggestion or desirability to modify their video conferencing system to monitor and keep track of each of the event participants simultaneously. Absent this motivation or suggestion, therefore, Ippolito et al. cannot render the Applicants' claimed invention obvious (MPEP § 2143.01).

St. Hilaire et al. add nothing to the cited combination that would render the Applicants' claimed invention obvious. In particular, St. Hilaire et al. merely disclose a system that creates high-resolution images using mirrors that reduces aberrations. (Abstract). However, the Applicants' claimed feature of an automated online broadcasting system that uses an omni-directional camera system to keep track of each of the event participants simultaneously is not discussed. Consequently, no motivation or suggestion for this feature of the Applicants' claimed invention is provided. Absent this motivation or suggestion, St. Hilaire et al. cannot render the Applicants' claimed invention obvious (MPEP § 2143.01).

Ippolito et al. and St. Hilaire et al. both fail to appreciate or recognize the advantages of the Applicants' claimed feature of an automated online broadcasting system that keeps track of each of the event participants simultaneously. More specifically, the automated online broadcasting system contains a tracker module that "determines the number of meeting participants and keeps track of them" (specification, paragraph 0045, line 7). This tracking of each event participant simultaneously alleviates any latency between the switching of views and gives the viewer a better viewing experience (paragraph 0054, lines 5-6). Neither Ippolito et al. nor Martin et al. discuss or appreciate these advantages.

The Applicants, therefore, submit that obviousness cannot be established since neither Ippolito et al. nor St. Hilaire et al. disclose, suggest or provide any motivation for the Applicants' claimed automated online broadcasting system that keeps track of each of the event participants simultaneously. In addition, both Ippolito et al. and St. Hilaire et al. fail to appreciate the advantages of this claimed feature. Therefore, as set forth in *In re Fine* and MPEP § 2142, Ippolito et al. and St. Hilaire et al., either alone or in combination, do not render the Applicants' claimed invention obvious because they are missing at least one material feature of the Applicants' claimed invention. Consequently, because a prima facie case of obviousness cannot be established due to the lack of "some teaching, suggestion, or incentive supporting the combination", the rejection must be withdrawn. ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984); MPEP 2143.01.

Accordingly, the Applicants respectfully submit that claim 1 is patentable under 35 U.S.C. § 103(a) over Ippolito et al. in view of St. Hilaire et al. based the amendments to claim 1 and the arguments set forth above and below. Moreover, claim 6 depends from independent claim 1 is also nonobvious over Ippolito et al. in view of St. Hilaire et al. (MPEP § 2143.03). The Applicants, therefore, respectfully requests the reexamination, reconsideration and withdrawal of the rejection of claim 6.

The Office Action rejected claims 10-13 under 35 U.S.C. § 103(a) as being unpatentable over Ippolito et al. in view of Martin et al. and further in view of Howell (U.S. Patent No. 5,767,897). The Office Action contended that Ippolito et al. and Martin et al. disclose all elements of the Applicants' claimed invention except for storing annotations associated with the event and synchronizing these annotations with the event. However, the Office Action stated that Howell discloses these missing features.

In response, the Applicants respectfully traverse this rejection based on the amendments to claims 8 and the arguments above and below. In particular, it is the Applicants' position that neither Ippolito et al., Martin et al., nor Howell disclose, suggest or provide any motivation for at least one claimed feature of the Applicants' claimed

invention. Further, Ippolito et al., Martin et al. and Howell all fail to appreciate the advantages of this claimed feature.

As noted above, amended claim 8 of the Applicants' claimed invention includes a method for filming and recording an event having event participants and presenting the filmed event to a viewer. The method includes switching instantaneously between views of the event participants in the omni-directional image in response to a choice of which of the event participants to view.

In contrast, neither Ippolito et al. nor Martin et al. disclose this claimed feature of the Applicants' invention. In addition, both Ippolito et al. and Martin fail to provide any motivation, suggestion or desirability to modify their systems to switch instantaneously between views of the event participants in an omni-directional image in response to the viewer's choice. Absent this motivation or suggestion, therefore, Ippolito et al. and Martin et al. cannot render the Applicants' claimed invention obvious (MPEP § 2143.01).

Howell adds nothing to the cited combination that would render the Applicants' claimed invention obvious. Howell merely discloses a traditional video conferencing system that allows an image to be edited and annotated by a speaker. However, unlike the Applicants' claimed invention, the system of Howell does not include an omni-directional image and cannot switch instantaneously between views of the event participants in response to a viewer's choice. Consequently, no motivation or suggestion for this feature of the Applicants' claimed invention is provided. Absent this motivation or suggestion, Howell cannot render the Applicants' claimed invention obvious (MPEP § 2143.01).

Ippolito et al., Martin et al. and Howell all fail to appreciate or recognize the advantages of the Applicants' claimed feature of switching instantaneously between views of the event participants. Instantaneous switching alleviates any latency between the switching of views and gives the viewer a better viewing experience (paragraph

0054, lines 5-6). Neither Ippolito et al., Martin et al. nor Howell discuss or appreciate these advantages of the Applicants' claimed feature.

The Applicants, therefore, submit that obviousness cannot be established since neither Ippolito et al., Martin et al. nor Howell disclose, suggest or provide any motivation for the Applicants' claimed feature of switching instantaneously between views of the omni-directional image by presenting the desired portion of the omni-directional image as selected by the viewer. In addition, Ippolito et al., Martin et al. and Howell fail to appreciate the advantages of this claimed feature. Therefore, as set forth in *In re Fine* and MPEP § 2142, Ippolito et al., Martin et al. and Howell, either alone or in combination, do not render the Applicants' claimed invention obvious because they are missing at least one material feature of the Applicants' claimed invention. Consequently, because a prima facie case of obviousness cannot be established due to the lack of "some teaching, suggestion, or incentive supporting the combination", the rejection must be withdrawn. ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984); MPEP 2143.01.

Accordingly, the Applicants respectfully submit that claim 8 is patentable under 35 U.S.C. § 103(a) over Ippolito et al. in view of Martin et al. and further Howell based the amendments to claim 8 and the arguments set forth above and below. Moreover, claims 10-13 depend from independent claim 8 are also nonobvious over Ippolito et al. in view of Martin et al. and further in view of Howell (MPEP § 2143.03). The Applicants, therefore, respectfully requests the reexamination, reconsideration and withdrawal of the rejection of claims 10-13.

The Office Action rejected claim 24 under 35 U.S.C. § 103(a) as being unpatentable over Ippolito et al. in view of Martin et al. and further in view of Bruno et al. (U.S. Patent No. 5,710,591). The Office Action contended that Ippolito et al. and Martin et al. disclose all elements of the Applicants' claimed invention except for providing negative switching that allows switching to a camera view of a person speaking before the person begins to speak. However, the Office Action stated that Bruno et al. disclose these

missing features.

In response, the Applicants respectfully traverse this rejection based on the arguments above and below. In particular, it is the Applicants' position that neither Ippolito et al., Martin et al., nor Bruno et al. disclose, suggest or provide any motivation for at least one claimed feature of the Applicants' claimed invention. Further, Ippolito et al., Martin et al. and Bruno et al. all fail to appreciate the advantages of this claimed feature.

As discussed above, claim 21 of the Applicants' claimed invention includes an automated event presentation system for capturing an event. The system includes a virtual director module within the automated online broadcasting system that determines which of the multiple camera views within the omni-directional image to display on the viewer platform. The virtual director module determines this by applying a set of expert production rules.

In contrast, neither Ippolito et al. nor Martin et al. disclose a virtual director module that applies expert video production rules. Moreover, both Ippolito et al. and Martin et al. fail to provide any motivation, suggestion or desirability to modify their video conferencing system to include virtual director module that applies expert video production rules. Thus, Ippolito et al. and Martin et al. provide no motivation or suggestion to use a virtual director module that applies expert video production rules. Absent this motivation or suggestion, therefore, Ippolito et al. and Martin et al. cannot render the Applicants' claimed invention obvious (MPEP § 2143.01).

Bruno et al. adds nothing to the cited combination that would render the Applicants' claimed invention obvious. In particular, Bruno et al. merely disclose a method and an apparatus for recording and indexing audio information during a multimedia conference (Abstract). However, the Applicants' claimed element of a virtual director module that applies expert video production rules is not discussed. Consequently, no motivation or suggestion for this feature of the Applicants' claimed invention is provided. Absent this

motivation or suggestion, Bruno et al. cannot render the Applicants' claimed invention obvious (MPEP § 2143.01).

Ippolito et al., Martin et al. and Bruno et al. all fail to appreciate or recognize the advantages of the Applicants' claimed feature of a virtual director module that applies a set of expert video production rules. More specifically, the virtual director module applies the set of expert video production rules in a probabilistic finite state machine framework such that the "director does not seem so mechanical to the human viewers" (specification, paragraph 0053). This allows a much more pleasant viewing experience for the viewer. None of the cited references discuss or appreciate these advantages.


The Applicants, therefore, submit that obviousness cannot be established since neither Ippolito et al., Martin et al. nor Bruno et al. disclose, suggest or provide any motivation for the Applicants' claimed virtual director module that applies a set of expert video production rules. In addition, Ippolito et al., Martin et al. and Bruno et al. fail to appreciate the advantages of this claimed element. Therefore, as set forth in *In re Fine* and MPEP § 2142, Ippolito et al. and Martin et al., either alone or in combination, do not render the Applicants' claimed invention obvious because they are missing at least one material feature of the Applicants' claimed invention. Consequently, because a prima facie case of obviousness cannot be established due to the lack of "some teaching, suggestion, or incentive supporting the combination", the rejection must be withdrawn. ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984); MPEP 2143.01.

Accordingly, the Applicants respectfully submit that claim 21 is patentable under 35 U.S.C. § 103(a) over Ippolito et al. in view of Martin et al. and further in view of Bruno et al. based the arguments set forth above and below. Moreover, claim 24 depends from independent claim 21 and is also nonobvious over Ippolito et al. in view of Martin et al. and further in view of Bruno et al. (MPEP § 2143.03). The Applicants, therefore, respectfully requests the reexamination, reconsideration and withdrawal of the rejection of claim 24.

In view of the arguments and amendments set forth above, the Applicant submits that claims 1-28 of the subject application are in immediate condition for allowance. The Examiner is respectfully requested to withdraw the outstanding rejections of the claims and to pass this application to issue.

In an effort to expedite and further the prosecution of the subject application, the Applicants kindly invite the Examiner to telephone the Applicants' attorney at (805) 278-8855 if the Examiner has any comments, questions or concerns.

Respectfully submitted,
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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

Following are marked-up versions of amended claims 1, 8, 15, 18 and 19:

1. (Once Amended) An automated event presentation system for capturing and viewing an event having event participants, comprising:

an omni-directional camera system that provides an omni-directional image of the event and that simultaneously monitors the event participants and films the event;

an automated online broadcasting system that controls and uses the omni-directional camera system to keep track of each of the monitored event participants simultaneously, and broadcasts the event; and

a viewer platform in communication with the automated online broadcasting system that allows a viewer to view the broadcasted event.

8. (Once Amended) A method for filming and recording an event having event participants and presenting the event to a viewer, comprising:

filming and recording the event using an omni-directional camera system to provide an omni-directional image that contains each of the event participants;

determining a location of the event participants in the omni-directional image; [and]

providing a user interface [to allow the viewer to choose] that allows a choice of which of the event participants in the omni-directional image to view, the choice being made by at least one of: (a) the viewer; (b) a virtual director; and
switching instantaneously between views of the event participants in the omni-directional image in response to the choice.

15. (Once Amended) The method as set forth in claim 14, wherein multiple camera views [may be] are obtained from the omni-directional image and further

comprising using the speaker detection technique to follow event participants that are speaking by switching from one camera view to another camera view.

18. (Once Amended) A method for displaying at least a portion of an omni-directional image capturing an event occurring within an event environment, comprising:

filming the event using an omni-directional camera system having a single camera to produce the omni-directional image;

transmitting the omni-directional image from a broadcasting platform to a viewer platform using a computer network; [and]

using the viewer platform to allow a viewer to select which portion of the omni-directional image the viewer would like to view; and

switching instantaneously between views of the omni-directional image by presenting a desired portion of the omni-directional image as selected by the viewer.

19. (Once Amended) The method as set forth in claim 18, wherein the viewer [may select] selects to view multiple portions of the omni-directional image.